ER Site No. 275: TA V Seepage Pits

ADS: 1306
Operable Unit: Tech Area III & V

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Site History

Trichloroethylene (TCE) was detected in the groundwater monitor well LWDS-MW1 located northwest of TA-V. This contamination was problematic in that no TCE was detected in the adjacent ER Site 5 (the LWDS Drainfield). The discovery of groundwater contamination led to a focused investigation to determine the contamination source. Activities included discussions with staff members of TA-V, a TA-V aerial photographic review, both passive and active soil gas surveys, a recharge analysis of groundwater, and a geochemical comparison of water quality at the Liquid Waste Disposal System (LWDS) wells, LWDS-MW1 and LWDS-MW2. In summary, a new site, the TA-V Seepage Pits were identified as the most likely contamination source and subsequently added to SNL/NM's list of ER sites.

The TA-V Seepage Pits consist of two septic tanks and six infiltration galleries (seepage pits) which are located immediately south of Building 6580 near the center of TA-V. According to the Waste Management and Regulatory Projects Department, most industrial process water at TA-V was disposed of to these seepage pits from the early 1960s up to 1992, when the seepage pits were abandoned. It is estimated that as much as 3,000 - 5,000 gallons of water were disposed of to these pits on a daily basis during that period of time.

The TA-V Seepage Pits were further investigated with a drilling program conducted between January and April 1995. Work was conducted in the vicinity of the TA-V seepage pits and the adjacent Site 36 (HERMES) and included:

- Drilling four boreholes in the vicinity of TA-V: one in the seepage pit area, one west of the seepage pits, and two at the HERMES site (Site 36);
- Collecting soil and active soil-vapor samples from each borehole at selected depth intervals;
- Completing the two seepage pit boreholes as groundwater monitor wells and collecting groundwater samples from each well;
- Conducting geophysical logging in the boreholes completed as monitor wells; and

- Conducting hydraulic conductivity tests in the TA-V and LWDS monitor wells.

The results of soil samples collected from these boreholes and monitoring wells are very complex. Many different organic compounds were detected at low levels in the soil vapor samples in all the new boreholes and monitor wells. Low levels of organics were detected in the soil samples from the two new TA-V monitor wells and one of the HERMES boreholes. These levels were difficult to distinguish from normal laboratory contamination. TCE was detected in the soil beneath the TA-V Seepage Pits but at levels lower than those expected from a large groundwater contamination source. Groundwater contamination in TAV-MW1 was detected in a bailed sample taken during well development and TCE has been confirmed in subsequent samples at approximately 3 ppb.

As expected, high levels of organic contamination was detected throughout the borehole located in the center of the HERMES site. High concentrations of total petroleum hydrocarbons (TPH)were detected as well as several other compounds resulting from the biological degradation of the oil; this originated from the HERMES oil.

The work conducted in support of ER Site 275 was completed promptly to address a potentially serious groundwater problem. Although the work was coordinated closely with the EPA and the NMED, there was a need to formally document the results and status of the investigation. Therefore, a data summary was prepared following the drilling program discussed above. This data summary is a concise description of the investigation and to help communicate the TA-V groundwater investigation to the Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED), as well as any other interested parties. Selected analytical data were included as an appendix for further detail.

Constituents of Concern

Volatile Organic Compounds (VOCs)

Current Hazards

There are no current hazards at this site related to contamination of the surface or subsurface soils. There may be structures or stored materials that remain at the site that are a potential hazard.

Current Status of Work

A risk-based No Further Action (NFA) proposal was submitted to NMED in September 1998. In December 1999, NMED indicated that the site was acceptable for NFA petition. The NFA proposal was approved by NMED in July 2000 after completing the public review and permit modification process.

Future Work Planned

No further work is planned.

Waste Volume Estimated/Generated

About 21, 55-gallon drums labeled "hazardous waste" and 45, 55-gallon drums labeled "nonregulated waste" of purge and decontamination water and 2, 5-gallon buckets of personal protective equipment (PPE) were generated.

Information for ER Site 275 was last updated Dec 18, 2001.